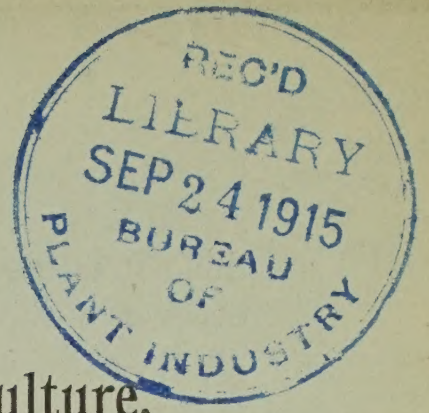


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United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

Forage-Crop Investigations,

WASHINGTON, D. C.

ORCHARD GRASS (*Dactylis glomerata*).

Orchard grass is a well-known standard grass which is grown to some extent in every State in the Union, and quite commonly in the region east of the Mississippi River and north of Alabama and Georgia. It attains most importance, however, in Kentucky, southern Indiana, Tennessee, North Carolina, Virginia, West Virginia, and Maryland, and seems quite thoroughly adapted to a variety of soils in these States.

This grass possesses certain objectionable features which have greatly interfered with its popularity in the general region where timothy can be successfully grown. These features are mainly its bunchy habit and the tendency of the hay which it produces to be unpalatable, especially when it is not cut at the proper stage of maturity. However, in most sections where timothy can not be grown successfully, orchard grass is considered a very valuable grass, and few objections are raised to the quality of hay which it produces.

SEEDING.

In the sections where orchard grass is of most importance it is customary to sow the seed in February or early spring on fall wheat at the rate of 3 pecks to 1 bushel per acre. This amount is used in case the crop is to be grown for seed; otherwise a larger quantity is sown, even as much as 2 bushels in many sections. Seed may be sown in the autumn with good results, but in most cases fall seeding has no advantage over spring seeding. It is sown thin when desired for seed, as it produces more abundantly when in this condition. It is usually sown broadcast, either by hand, wheelbarrow, or other type of seeder, as it does not feed well through a press drill. One of the most important points in seeding is to cover the seed very lightly, since covering too deeply frequently results in a failure to secure a stand. A good stand of grass may be secured by scattering orchard-grass straw from which the seed has been thrashed on ground that

has been sown to wheat. This is usually done in February. The straw acts as a mulch and the seed need no covering. When this is done it is essential that it be scattered very evenly and very thin; otherwise the stand would be too thick and unsatisfactory. The greatest objection to this practice is that unless the straw is clean it is sure to make the meadow weedy.

Throughout almost the entire region where orchard grass is grown it can be mixed with red clover profitably. This practice is a good one, not only for the value of the red clover in retaining the soil fertility, but also from the fact that its presence greatly improves the forage either for hay or pasture. If desired for seed, red clover will be found a menace to the seed crop, especially in the first and second years. Where the grass is intended for hay and pasture, red clover may be sown at the rate of 1 bushel to 5 to 7 acres, usually as early in the spring as the weather will permit. If desired, it may be sown in the fall, but the seed should not be mixed with that of orchard grass, as they do not feed out evenly together.

On account of the bunchy tendency of orchard grass it is often desirable to mix it with other grasses for hay or pasture. This can be done with very good results. Aside from affecting the palatability of the grass the mixture has a tendency to increase the yield. Orchard grass matures well with tall meadow oat-grass and meadow fescue, and in some localities a mixture of it with the latter is attracting considerable attention.

LIFE OF MEADOWS.

Orchard grass is a more hardy and permanent grass than timothy, and as a result remains productive in a meadow under most conditions much longer. In general, the life of a meadow is from five to seven years, but it is probable that it would give better results by breaking up at the end of four years. In a large part of the area where it is grown, redtop and the bluegrasses have a tendency to run it out after it has been in the field for more than three or four years. This depends somewhat on the treatment, especially whether the grass is used for hay or pasture. Pasturing seems to facilitate the growth of the bluegrass by causing the orchard grass to be more bunchy, and it is also the means of spreading the bluegrass seed.

USE AND VALUE.

According to chemical analysis, orchard-grass hay should be equal if not superior to timothy, but in real practice it does not seem to be able to compete successfully with the latter. In large cities at the present time there is practically no demand for any hay except timothy, and the demand for orchard-grass hay is only local and very limited. In the timothy region orchard grass is looked upon unfavor-

ably, but where timothy can not be grown successfully it is used to quite an extent and is considered of very good quality. If the grass is sown at the rate of about 2 bushels per acre, so that it makes a thick stand, the quality of the hay will be much improved. Its value is also increased by the addition of red or alsike clover, and where it is grown with tall meadow oat-grass or meadow fescue its quality seems to improve with such mixtures. To obtain the best results for hay it should be cut when it is just in bloom, as at that time the quality seems to be the best and the yield is at the maximum. The hay is fairly good feed for horses, but it is more valuable for cattle, especially for fattening them for the market.

For pasture, orchard grass gives the best results with other grasses and clovers and is of special importance from the fact that it can be grown early and late in the season. For this point alone, if not for any other, it is quite valuable. It also stands grazing fairly well, but must be closely pastured; otherwise it will become too coarse and woody, and stock will not eat it.

SEEDS.

Seed of orchard grass is produced to the largest extent in Jefferson, Oldham, and Shelby Counties, Ky., in Clark County, Ind., and in some of the counties adjoining those in both States mentioned. Seed is harvested with a common grain binder and thrashed with an ordinary separator, giving attention to regulating the wind to prevent blowing too much over. In general it may be stated that orchard grass is handled for a seed crop in the same manner as smaller grains. In the section just referred to, the average yield of seed is 10 to 12 bushels per acre, and the average price received for it is about \$1.25 per bushel.

After cutting for seed the aftergrowth may be either pastured or cut for hay. If the grass is cut high with the binder, there is usually a sufficient amount of aftergrowth to make a fair yield of hay. In any event it affords considerable pasturing, especially late in the fall. The value of the straw, from which the seed has been thrashed, is about equal to that of wheat straw for feed. This depends more or less on the maturity of the grass at the time of cutting and the amount of aftergrowth, including red clover, contained in it.

JULY 15, 1915.

